

Title (en)

HIGH-VOLTAGE DIRECT CURRENT SOFT START CIRCUIT

Title (de)

HOCHSPANNUNGSGLEICHSTROM-SANFTANLAUFSCALTUNG

Title (fr)

CIRCUIT DE DÉMARRAGE SOUPLE À COURANT CONTINU HAUTE TENSION

Publication

**EP 2985895 A4 20160511 (EN)**

Application

**EP 14865359 A 20140506**

Priority

- CN 201310632606 A 20131129
- CN 2014076861 W 20140506

Abstract (en)

[origin: EP2985895A1] Embodiments of the present invention provide a high voltage direct current soft-start circuit in which a first end of a first switch is connected to a negative electrode of a high voltage direct current, a first end of a second switch is connected to the negative electrode of the high voltage direct current, and a drive control unit is connected separately to the first switch, the second switch, and a load, where a first part of a connector is connected to the drive control unit, and upon power-on, the first part of the connector communicates with a second part of the connector, to trigger the drive control unit to drive the first switch to turn on; and the drive control unit delays a preset time after driving the first switch to turn on, drives the second switch to turn on, and drives the load to start after the second switch is turned on. In the embodiments of the present invention, a connector can be inserted and disconnected without generating an electric arc, thereby avoiding generating an arc discharge, and implementing arc-free hot plugging of a high voltage direct current power supply apparatus; moreover, no improvement needs to be made to the connector itself, so that the connector has a relatively small size.

IPC 8 full level

**H02M 1/36** (2007.01); **H02H 9/00** (2006.01)

CPC (source: EP US)

**H02H 1/0007** (2013.01 - US); **H02H 9/001** (2013.01 - EP US); **H02M 1/36** (2013.01 - EP US); **H02M 7/125** (2013.01 - EP US); **H02H 9/025** (2013.01 - US); **H02M 7/7575** (2013.01 - EP US); **Y02E 60/60** (2013.01 - EP US)

Citation (search report)

- [I] US 2013286525 A1 20131031 - KANAMORI TAKASHI [US], et al
- [A] US 4513341 A 19850423 - KOLLANYI MIKLOS J [US]
- [A] US 5077675 A 19911231 - TAM KAM T [US]
- See references of WO 2015078142A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

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**EP 2985895 A1 20160217**; **EP 2985895 A4 20160511**; **EP 2985895 B1 20200205**; CN 103647441 A 20140319; CN 103647441 B 20160824; US 2016118782 A1 20160428; US 9705303 B2 20170711; WO 2015078142 A1 20150604

DOCDB simple family (application)

**EP 14865359 A 20140506**; CN 201310632606 A 20131129; CN 2014076861 W 20140506; US 201514980916 A 20151228